ELECTRICAL WORLD *News Issue*

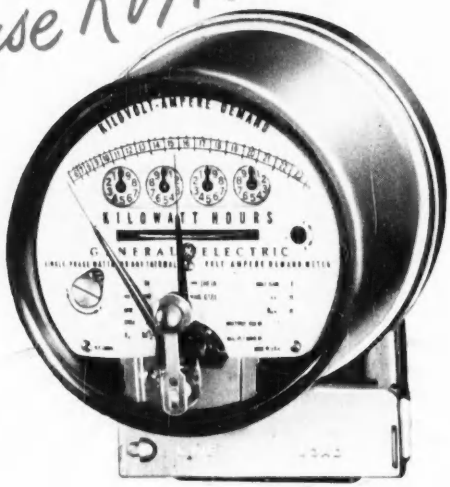
DECEMBER 24, 1949

A McGRAW-HILL PUBLICATION

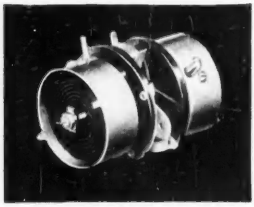
Oscar L Chapman — A Career Man Becomes Secretary of the Interior

GENERAL ELECTRIC ANNOUNCES

a new device for direct measurement of Single-phase KVA demand



TYPE IHE WATTHOUR THERMAL KVA DEMAND METER



This conventional bi-metallic thermal element is coupled in a unique way with a "resistance valve" to give a true measure of kva. See explanation in text at right.

You can now measure single-phase kva demand easily and economically with this new G-E meter.

A NOVEL APPLICATION of the *"direct-heat"* current-energized thermal element has made this possible. A resistor (controlled thermally by voltage) has been inserted in series with the negative torque spiral of the thermal element. Torque of the element, therefore, varies directly with line voltage as well as current. Since the torque of the thermal element is caused by the current and by the heating effect of the line voltage, operation of the meter is independent of phase relation (power factor). Thus it gives a true measure of kva.

OTHER DESIRABLE FEATURES of the IHE include a wide-limit watthour meter element. It is equally accurate at high and low loads. It has braking magnets die-cast in the frame for calibration stability. And, it has a relief gap that provides a controlled breakdown point.

Load curves, response times, thermal ratings, and other details are available in Bulletin GEC-504. Your nearest G-E representative will be glad to give you a copy. Or you can write to *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

The Electrical Week

With the century half over Westinghouse engineers have paused long enough to peer into the future. They see a seven-fold increase in power use. Power will be generated by bigger machines, and all utility equipment will be made better either because of design or new materials . . . Jasper, Ind., population 5,000 plus, has come up with the electric idea of the year. The whole town is buying electric garbage disposers so that the town fathers no longer have to worry about the financing and manning of a garbage collection system . . . The Tennessee Valley Authority is going to get another 250,000-kw steam plant. This time without much opposition. The plant will produce energy for the atomic power project and the new Air Research Center . . . And last week was a big week for the electric power industry. Outpeak reached a record 5,996,606,000 kwhr.

A Federal Power Commission examiner has recommended that FPC reject application of the New York Power Authority for a license to develop power portions of the St. Lawrence Seaway. The decision, Dec 20, urged that all power be developed by the U. S. and Canada.

A hearing on petitions of Westinghouse and the new CIO electrical union for elections among 55,000 employees in 40 Westinghouse plants will be held at Pittsburgh Dec 28. The UE, whose contracts expire April 1, would prefer the elections in March. The rival CIO union is anxious that elections be held immediately.

World Bank will shortly approve loans for three widely separated power developments: Uruguay will get $25-$30 million for hydro-electric construction; India will borrow $25 million for a steam plant at Bokar in the Damodar Valley; and El Salvador will receive $12.5 million for a hydro project.

New appointee to Atomic Energy Commission to fill vacancy left by resignation of David E. Lilienthal may—some say will probably—not be chairman, with top spot going to one of present members. But whoever is new chairman, AEC will be less of a one-man show than under Lilienthal. Relatively blunt statements by the ex-TVA boss left little room for usual Washington search for the "real" reason, promised that Lilienthal will not go into quiet retirement.

The Rural Electrification Administration reports that it has financed 910,000 miles of line on 973 power systems operated by 1,059 borrowers in 46 states, Alaska, and the Virgin Islands.

The Army Corps of Engineers has set up its new Tullahoma (Tenn.) District. It will be construction base for non-technical facilities at the new Air Engineering Development Center at Camp Forrest, Tenn., where the Air Force will locate wind tunnels and other test equipment.

A 9,500-ft section of the 8-in. natural gas pipeline which will serve the Reynolds Alloy Co, Listerhill, Ala., will be made of aluminum alloy.

Floating power plants may soon be a drug on the market. The Puerto Rico Water Resources Authority has a 30,000-kw plant on the market. Jacksonville, Fla., which will soon have a new plant in operation, is wondering what to do with its floater.

Over 34,000 radio transmitters will be operating in 925 communications systems in the electric utility industry in 1951, W. J. Bryant, a General Electric communications engineer, has predicted.

Atomic power will be an issue in Connecticut next year if ex-Manhattan district boss, retired Lt. Gen Leslie R. Groves, decides to run for the Senate seat held by Chairman Brien McMahon of the Joint Congressional Atomic Energy Committee. Atoms also will be in politics in Iowa, where Sen. Bourke B. Hickenlooper will be up for re-election.

Trend in sales by electrical goods wholesalers is still down. Department of Commerce figures show October sales off 1% from September, 11% under October, 1948. On the other hand, estimated total sales of retail radio and household appliance dealers amounted to $270 million for the month, $23 million over September and $44 million above October, '48.

U. S. Department of Agriculture researchers have found that higher intensity sources of light in the near ultraviolet region attract more moths but not in proportion to the increased intensity. On this basis, 250-w lamps were the most effective moth catchers.

Hartford Electric Light Co, the Connecticut capital's largest taxpayer, assessed at over $20,600,000, now pays about 5% of the city's total running costs.

Westinghouse Engineers Look to Future

Foresee Great Improvements in Power and Electric Industry Technology; 1,150-F Turbines and 200,000-Kw Generators among Major Developments

As THE TWENTIETH century rounded the half-way mark this month, engineers and scientists of the Westinghouse Electric Corp laid down their slide rules, leaned back, and took a long look at where the technology of the power and electric industry is headed in the next 50 years.

What they saw is cheering. Summing it all up in the "Mid-Century Review and Forecast" issue of the *Westinghouse Engineer*, A. C. Monteith, vice-president in charge of engineering, foresaw "at least" a seven-fold increase in the use of electric power before 2000. Said he:

Better Systems Ahead

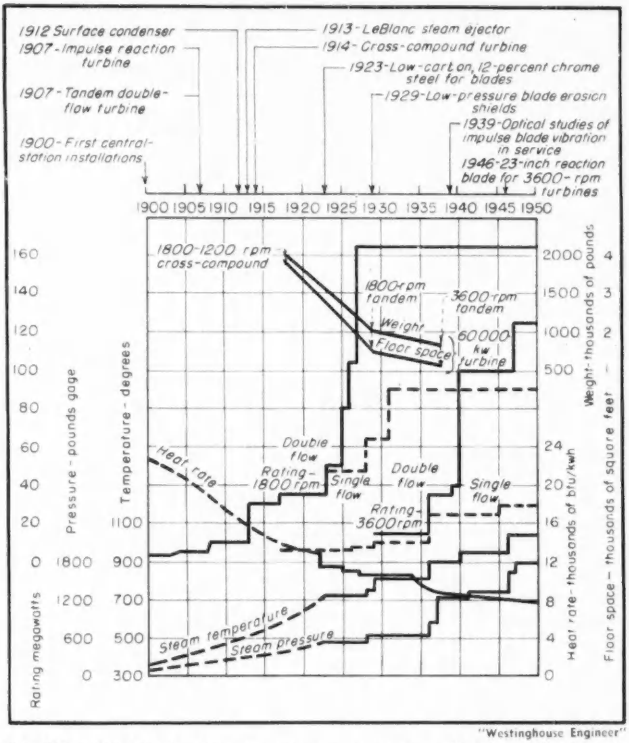
"We can be sure that these loads will be served not by just more of the same devices and systems of today, only bigger. The needs of tomorrow call for better systems, smaller devices. New fields and new kinds of things will come into view . . . atomic energy . . . the gas turbine . . . Industry will find the energy content of its products growing. This will mean more automatic controls, higher speeds, new methods of fabrication and processing."

For a more detailed view of what this means in terms of future developments in central station apparatus, the *Engineer* cited the following predictions by experts on individual apparatus:

Temperatures to Rise

Steam turbines—Economics of rising fuel and labor costs will force an increase from the present top steam temperature level of 1,050 F to 1,100 F. Construction and materials now in use will still be applicable. The next step to 1,150 F will soon follow but will require better materials than are now at hand.

Machines of larger maximum capacity are clearly in the short-range picture. Units of 150,000 to 200,000 kw are likely to be in demand before long. An 1,800 rpm, single-shaft turbine of 600,000 kw would be technically possible. However, near-future turbines larger than 150,000 kw would be cross compounded to obtain the advantages of the high-steam conditions of 3,600 rpm and because of the ability of the 1,800-rpm construction to accommodate the tremendous exhaust steam volume.


1912 Surface condenser
1907 - Impulse reaction turbine
1907 - Tandem double-flow turbine
1900 - First central-station installations
1913 - LeBlanc steam ejector
1914 - Cross-compound turbine
1923 - Low-carbon, 12-percent chrome steel for blades
1929 - Low-pressure blade erosion shields
1939 - Optical studies of impulse blade vibration in service
1946 - 23-inch reaction blade for 3600-rpm turbines
1900 1905 1910 1915 1920 1925 1930 1935 1940 1945 1950
1800-1200 rpm cross-compound
1800-rpm tandem
3600-rpm tandem
Weight
Floor space
60000 kw turbine
Double flow
Heat rate
Rating - 1800 rpm
Single flow
Double flow
Single flow
Rating - 3600 rpm
Steam temperature
Steam pressure
Rating megawatts
Pressure - pounds gage
Temperature - degrees
Heat rate - thousands of btu/kwh
Weight - thousands of pounds
Floor space - thousands of square feet

"Westinghouse Engineer"

CLIMBING CURVES of turbine size and steam temperature will take another jump in the early years of the next half century, Westinghouse engineers predict. Biggest turbine rating may reach 200 Mw, steam temperature 1,150 F, but better materials must come first

Reheat seems likely to be an adjunct of the future high-economy, large-capacity units of further advanced steam conditions.

Top limit (60,000 kw) of turbine standards is small for the larger systems. Standardization of a 90,000-kw machine is indicated.

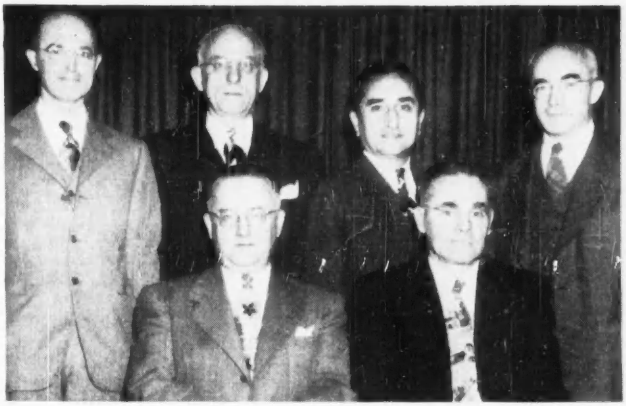
Atomic power stands as a potential source of heat for steam-driven turbines. But central station use is some years away.

Today the gas turbine stands where the steam turbine stood at the beginning of the century; a fundamental new tool whose potentialities have hardly been explored.

A-C generators—Maximum ratings of 200 to 225 Mw are already justified by the demands of generating systems. These ratings are possible with single-unit, 3,600-rpm, hydrogen-cooled generators of present-day construction operating at 30 psi hydrogen. Single unit 1,800-rpm generators can now be built for ratings of 350,000-kva and perhaps more.

The greatest design gain will result from development of superior methods of using present or new media to dissipate losses with the lowest thermal drops. Design problem is to obtain greater output per unit of materials used. Generator outputs per pound of active material may be increased from 33⅓ to 50%.

Switchgear—Present highest breaker-interrupting capacity of 10-million kva



A REPORT advocating 20-amp branch circuit protection has been released by the technical division of a joint AE.C-EEI committee consisting of E. V. Sayles, left seated, Consumers Power Co and H. P. Sleeper, Public Service Electric & Gas Co. Standing, G. B. Doddy, left, Duquesne Light Co; F. E. Davis, Jr, Commonwealth Services, Inc; C. P. Xenis, Consolidated Edison Co of New York; and Harry E. Kent, Edison Electric Institute

will be inadequate for even the near future. A top of 15-million kva has been considered.

High speed reclosing in nine cycles, or even less on three-phase circuit breakers at the highest voltages, is now obtainable. This can be reduced further if separate mechanisms are used on each pole. Deionization of faults need be the only limitation on high-speed reclosing.

Transformers—In the near future the maximum commercial operating voltage can be expected to increase from 287 kv to the neighborhood of 400 kv. It is doubtful whether higher operating voltages will ever be required in this country.

Although the maximum transformer size that can be built into a single unit and shipped complete is 145,000 kva, this will be increased. When needed, 200,000 kva can be provided. Shipping facilities and not design determine the upper kva limit.

If designers could have "dream" core, coil, and insulator materials, the transformer of tomorrow might well be much smaller, with core and windings cast into a solid mass of insulation. The steel exterior would become unnecessary. The solid unit could be buried in the ground.

Instead of a solid dielectric a new synthetic fluid with better insulating properties than oil could be used under pressure to give additional insulating strength. Thus we might see the high-pressure transformer.

Motors and controls—The degree of motor enclosure has been steadily increasing. This seems to be leading to a single completely enclosed, self-cooled motor applicable where general-purpose, fan-cooled motors are now used.

Silicones may supply the answer to higher-temperature insulations. But a "hot" motor has disadvantages involving bearings and personal hazard. A radical new method of frame cooling, possibly employing latent heat of vaporization, may be needed.

In the far future the motor may have not only built in thermal and overload protection but also starting equipment enclosed. It would be a packaged drive needing only foundation, electrical leads to a pushbutton and power supply, and shaft connection.

Lamps and lighting—Future of the incandescent lamp is prescribed. A better filament than tungsten is unlikely because all others have been tried. There is little prospect for a better gas to surround it; krypton and xenon are uneconomic. Present-day efficiency of the tungsten lamp could at most be upped but a small percentage.

High-pressure, mercury-vapor lamps have a hopeful future because their efficiencies, now upwards of 50 lumens per watt, may reach 100 if improved methods of handling the high temperatures (1,000 C) and pressures (10 atmospheres) of the mercury arc are found.

Today's fluorescent lamp has come a long way in ten years. Its present efficiencies of 60 lumens per watt may be doubled in the next decade through improved phosphors coupled with better inert gas mixtures within the tubes and perfected electrodes.

Industrial electronics—High-frequency heating can be expected to expand. Ability to generate r-f energy in blocks of more than 10,000 kw or even 50,000 kw at a cost of little more than 60-cycle energy would open up new fields.

Dielectric cooking has met with little success, but new food processing methods designed for use with dielectric heat could change this.

Industry has scores of metal annealing tasks that might be done better or faster and at an acceptable cost with 60-cycle or high-frequency electricity.

Scarcely a beginning has been made in microwave communication. Its widespread use by electric utilities, pipe line companies, forest protectors, and similar services seems likely.

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Central Maine Granted Emergency Connection

A permanent connection between transmission facilities of Central Maine Power Co, Augusta, and Public Service Co of New Hampshire, Manchester, has been approved by the Federal Power Commission. The interconnection, for emergency use only, may be maintained until June 1.

Central Maine requested the interconnection to help it meet a possible hydro shortage because of drought conditions in 1947 and 1948 and below-normal water conditions in 1949. A 115-kv, 10-mile transmission line will be built by Central Maine linking its North Berwick substation with Public Service's 115-kv transmission line in southwestern Maine.

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ONE HUNDRED General Electric push-button electric ranges are arranged on the floor of the Grand Ballroom of the Waldorf-Astoria Hotel in New York awaiting connection

GE Range Installation Wired for 450-Kw Load

The largest one-room connection of electric ranges was made last week at the Waldorf-Astoria Hotel in New York. The 100-range installation was made in the Grand Ballroom for contestants in a cooking contest sponsored by a flour company.

Speed was essential in the installation of the General Electric push-button ranges. The electricians could not begin work until 2 AM. The job had to be completed by 8:30 o'clock. Actually by 5 AM power was available for all of the ranges. The remainder of the time was spent in testing the circuits.

Electricians were present during the contest to make any necessary repairs.

To supply the 450 kw needed it was necessary to run three extra services (three-phase, 4-wire, 500 MCM cable) from the control panel in the basement to the panel boards on the ballroom floor.

Feeder assemblies using cable sizes of 500 MCM, 4/0 and 6 Awg, were used to bring current to the panel boards and ranges. These feeders were assembled and stripped beforehand, complete with fuses in the cable lines for each range as well as for each group of 10 and 25.

Output Sets New Record for Year Ended Sept 30

Electric utility energy production set a new record for the year ended Sept 30. The output of 290,376,515,000 kwhr was the highest total for any 12-month period to date, 5.1% more than during the year ended Sept 30, 1948, and 0.1% above the previous maximum set during the period ended Aug 31.

Production during September was 23,921,565,000 kwhr, the highest September total on record but 4.4% below the August total of 25,020,960,000 kwhr and only 1.3% over September of last year.

Output of water power plants for September was 6,975,831,000 kwhr, a 15.6% increase over September, 1948. As a percentage of September's total output, water power production increased from 25.6% last year to 29.2% this year.

Industrial production, including generation by railway and railroad plants, was 4,436,336,000 kwhr in September, a decrease of 0.4% from the same month last year. Combined utility and industrial production was 1% above the same month in 1948 and for the year ended Sept 30 was 4.7% above the same period a year earlier.

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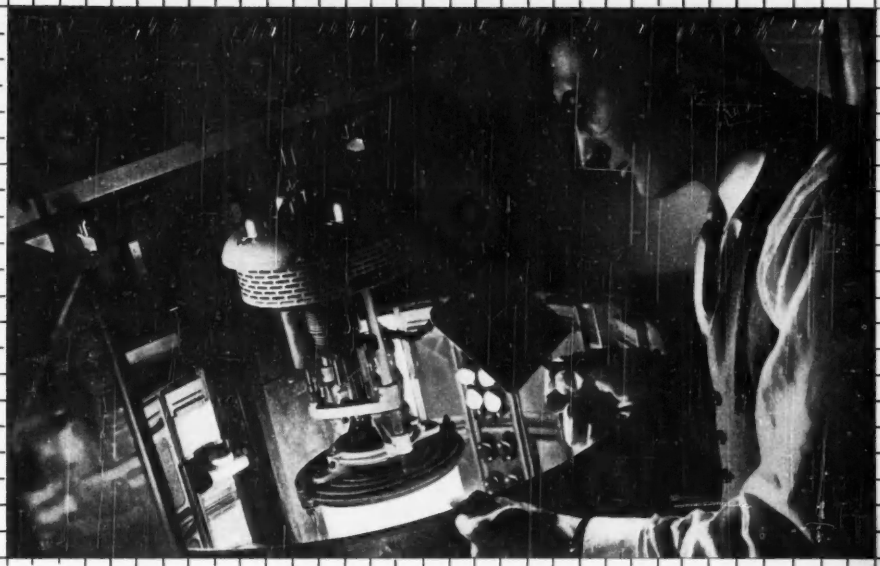
City System Leased

The Forrest City, Ark., municipal distribution system is to be leased to the Arkansas Power & Light Co. The municipal plant is no longer able to supply the city's energy requirements.

DEMONSTRATION kitchen opened by Cleveland Electric Illuminating Co can accomodate groups of 100 persons. First classes to be conducted by the company's home service staff will be on baking and home freezing techniques. Cooking and other classes will be held later

QUALITY CONTROL DATA SHEET

SYLVANIA FLUORESCENT FIXTURES



Accelerated weather tests insure long-lasting enamel finishes on Sylvania fixtures

Heat, ultra-violet radiation, and humidity are relentless enemies of the enamel finishes used on fluorescent fixtures. At Sylvania's Ipswich plant, specimens of the Miracoat synthetic enamel finish for reflectors and chassis are constantly checked in the Weatherometer, shown above. The Weatherometer duplicates—in a few days—the atmospheric attack that breaks down or discolors ordinary enamels after a few years of actual service.

As a result of this "extra" quality control, Sylvania fixtures are famous for the lasting qualities of their Miracoat finish—which means that metal parts are protected from atmospheric attack, and reflecting surfaces maintain their rated reflectivity over the long life of the fixture.

Sylvania Electric Products Inc., 500 Fifth Avenue, New York 18, N. Y.

SYLVANIA ELECTRIC

FLUORESCENT LAMPS, FIXTURES, WIRING DEVICES, SIGN TUBING, LIGHT BULBS, PHOTOLAMPS, RADIO TUBES, CATHODE RAY TUBES, ELECTRONIC DEVICES

YOU CAN BE **SURE**.. IF IT'S

Westinghouse

PROOF

FROM

NORTH CAROLINA

"so far as I am concerned, the 'CSP' is the only transformer"

What backs up this statement by the manager of a southern co-operative, about the "CSP"* Completely Self-Protecting transformer?

In August, 1947, the most severe wind and lightning storm in his long experience lashed the area served by his company. Five breaks in the line were reported, plus two breaks in the neutral. Service trucks were rushed out—and, naturally, they carried replacement transformers.

But not one "CSP" transformer had failed!

This striking proof of the lightning protection built into "CSP" transformers is one reason why 1,050 transformers in the 520 miles of line in this system are "CSP" units. And why only 50 are conventional type.

One thing is sure: the built-in lightning protection of "CSP" transformers lowers maintenance costs. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-70525

**Trademark—Reg. U. S. Pat. Off.*

HERE'S PROOF FROM U. S. A.—Thirty case histories of Completely Self-Protecting transformers, with names, dates, places, facts and figures. Get your copy of B-4248.

Call the Westinghouse Salesman

WESTINGHOUSE

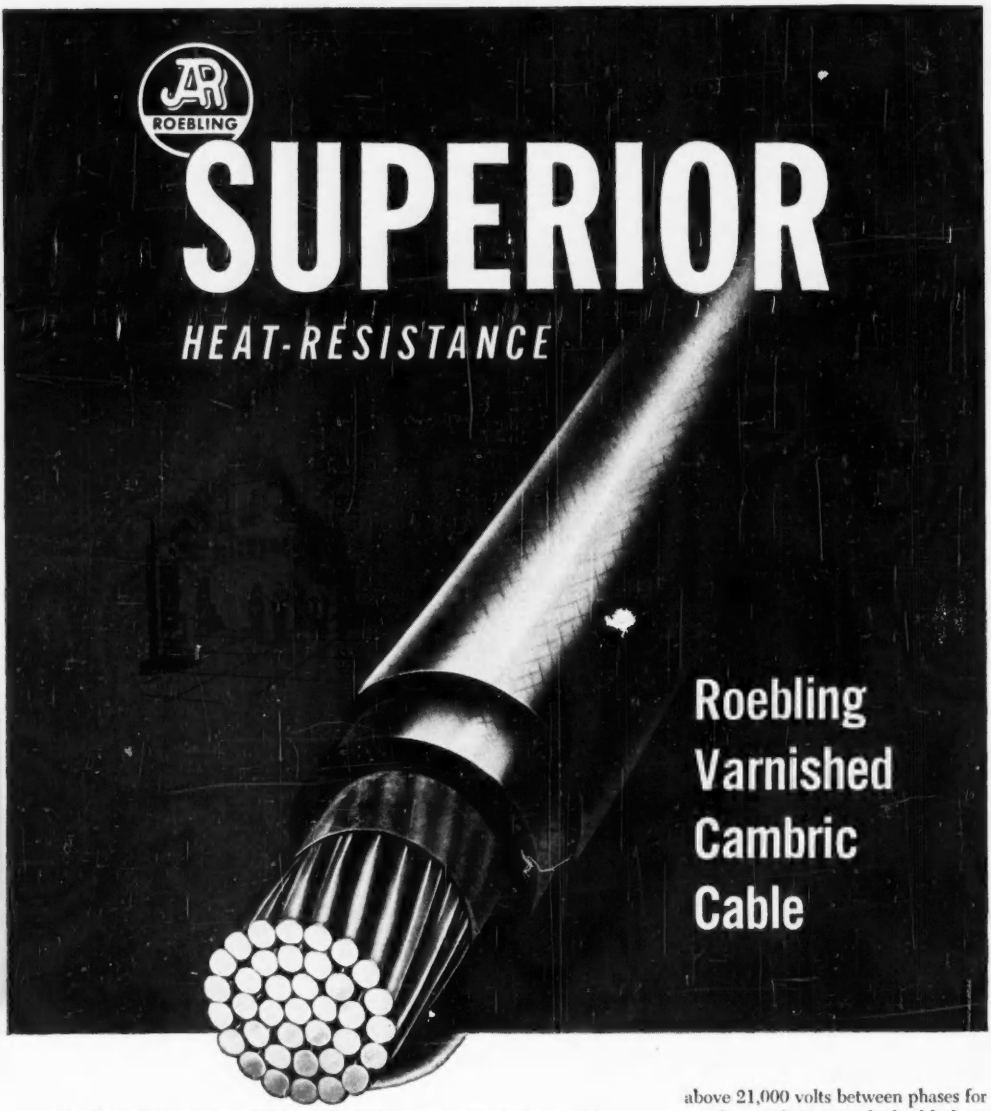
Westinghouse "CSP" TRANSFORMERS

SINGLE PHASE THREE PHASE BANKED SECONDARY

JR ROEBLING

SUPERIOR

HEAT-RESISTANCE



BEST CHOICE for GENERATOR and MOTOR LEADS

FOR THE TORRID ZONES in power, heat and lighting circuits, Roebling Varnished Cambric Cable is your one best choice. The heat resistance of Varnished Cambric gives top efficiency on leads for generators, motors, transformers and oil switches.

You can have Roebling Varnished Cambric Cable in single or multiple conductor types . . . single, from 2,000,000 C. M. to No. 14 A.W.G. Both constructions are adapted for use not above 17,000 volts between phases for unshielded multiple conductor . . . not above 21,000 volts between phases for single conductor and shielded on ungrounded neutral; and not above 28,000 volts between phases for single conductor and shielded on grounded neutral.

Write for detailed information, or contact with your Roebling Distributor—he'll be glad to help. John A. Roebling's Sons Company, Trenton 2, N. J.

WRITE OR CALL THE ROEBLING FIELD MAN AT YOUR NEAREST ROEBLING OFFICE AND WAREHOUSE

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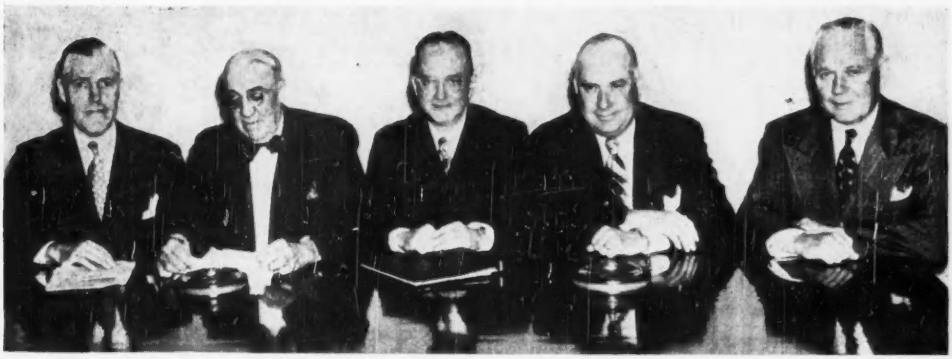
ROEBLING

☆ *A CENTURY OF CONFIDENCE* ☆



THE FEDERAL POWER COMMISSION sits at Washington for the first picture of its present members. Left to right are Thomas C. Buchanan, Vice-Chairman Claude L. Draper, Chairman Nelson Lee Smith, Harrington Wimberly, and Mon Walgren. The last, who joined the Commission on Nov 1, has been elected vice-chairman to succeed Draper on Jan. 1. The vice-chairmanship is rotated on a yearly basis

Federal Judge Reaffirms Idaho Power Co Ruling

Retired Federal Judge Charles Cavanah has refused to dismiss and set aside his ruling in a suit brought against the Idaho Power Co by the U. S. government.

Judge Cavanah said:

"The rule as to dismissal of an action on the ground that the cause becomes moot applies to the appellate court on appeal, not to the trial court.

"To now vacate the final decree of this court would merely enable the plaintiff (government) to institute another suit upon identical grounds upon which the action was instituted, tried on its merits and a final judgment entered."

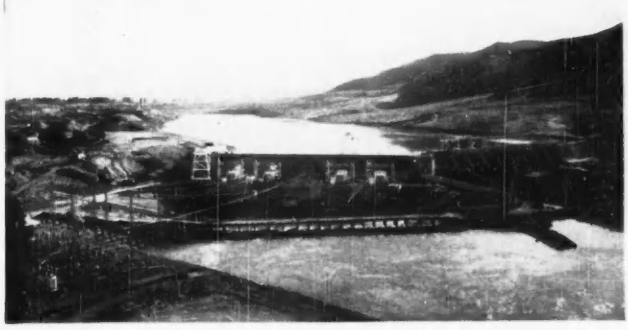
He previously had dismissed an injunction against the power company brought by the government. The government had claimed the company was trespassing on public domain lands in its construction of its transmission line from American Falls and Boise by way of the Bliss Dam.

The government later asked that the ruling be set aside and dismissed, on the grounds the question had become moot.

•

Quebec Hydro Buys Area

The Quebec Hydro-Electric Commission has purchased from the Provincial Government the water-power assets and development rights in northwestern Quebec. The price is $20 million. Included in the properties purchased are the Cadillac power plant at Rapid No. 7, a dam and reservoir at Lake Dozois, and development rights at Rapid No. 1. All three properties are on the Upper Ottawa River, which twists through the Temiskaming Region.



LOWER SALMON PLANT on the Sanke River is the fourth plant completed by Idaho Power Co since the end of the war. Plant, near Hagerman, Idaho, has a capacity of 65,000 kw

Boston Edison Co Taxes Tops in U. S., Says Toner

Boston Edison Co is the most heavily taxed of all electric utility companies of comparable size in the United States. This claim was made by the company's president, James V. Toner, at a dinner given the company by citizens of Weymouth, Mass.

An illuminated scroll was presented the company "in appreciation for the fine cooperation and good citizenship exemplified by Boston Edison in Weymouth in the last 25 years."

In discussing the effect of local taxation on electric rates, Toner said:

"The millions which Boston Edison pays in taxes each year must necessarily come from our customers, our only source of income. Federal tax rates are, of course, levied equally in all states. Here in Massachusetts, however, Boston Edison pays 11.8% of its total income in state and municipal taxes. Ten other large utilities in the country, comparable in size with Boston Edison and serving such large cities as Detroit, Cleveland, Baltimore, Pittsburgh, and Philadelphia, average only 6.6% in state and local taxes.

"This means that Boston Edison must pay each year, in this type of taxes alone, nearly $3.5 million more than the electric companies in these other large cities. This is a fact not brought to your attention by political leaders who are constantly telling you that our electric rates are higher than in other parts of the country."

•

Gets 25-Year Franchise

Iowa Power & Light Co has secured a 25-year franchise in Bedford.

UE-IUE Fight Getting Hearings Now by NLRB

First hearings by the National Labor Relations Board were begun this week in the jurisdictional fight in the electrical industry.

They were begun after the United Electrical, Radio & Machine Workers withdrew its request for an injunction against the hearings and its claim for $100,000 damages from the five NLRB Board members.

Elections are being sought by the new CIO International Union of Electrical, Radio & Machine Workers in plants where the rival UE, recently expelled from the CIO, holds contracts.

UE sought to block the pre-election hearings in the Federal District Court because of instructions issued by NLRB General Counsel Robert N. Denham. The union contended that its property rights, meaning its contracts, were violated because Denham told the NLRB hearing officers not to consider as a bar to an election any existing contract that expires before May 1. The UE contended that the question of whether a contract stands as a bar to an election is for the Board to decide.

The union withdrew its objections after Denham revised his instructions. He asked the hearing officers to take evidence on the schism within the electrical union to help the Board decide the status of the contract as a possible bar to an election at this time.

The UE then issued a statement urging the dismissal of Denham for alleged collusion with the IUE-CIO.

Election hearings were held this week on General Motors in Dayton; on Sperry Gyroscope in New York and on Wurlitzer in Buffalo. The Westinghouse hearing is set for Dec 28.

Meanwhile, General Electric filed 99 petitions asking for elections in that many units represented by the UE.

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Canadian Output Statistics

The following statistics released by the Dominion Bureau of Statistics are in thousands of kilowatt hours:

Period	1949	1948
Eight months' output	30,990,729	29,867,671
Primary	28,557,965	27,792,261
Secondary	2,432,764	2,075,410
Primary Consumption	27,602,935	26,903,424
Net Exports to U. S.	1,291,984	1,154,251
August output	3,798,459	3,686,938
Primary	3,664,551	3,515,931
Secondary	133,908	171,007
Primary Consumption	3,533,662	3,408,334
Net Exports to U. S.	140,791	131,375
July output	3,729,920	3,657,119
Primary	3,496,765	3,470,590
Secondary	233,155	186,529
Primary Consumption	3,362,283	3,355,431
Net Exports to U. S.	167,902	150,940

Town Goes All-Electric for Garbage Disposal

The whole town of Jasper, Ind.—population, 5,000-plus—is buying electric-driven garbage disposal units.

Sponsored by the city government, the unique program got under way in mid-December with the objective of placing units in each of more than 1,300 Jasper homes. Purpose is to rid the city of its increasingly vexatious garbage collection problems.

Though the municipal government conceived the plan and is acting as purchasing agent, residents of the town are supplying the actual cash for the disposal units. Requests for the units already were pouring in before the city could draw up application forms.

Mayor Herbert E. Thyen proposed the program as a solution to a twofold problem facing the city. First, the cost of municipal garbage collection has risen steadily in recent years—to more than $13,000 for 1949. Second, even at these rates, the city had trouble finding a taker for the collection job.

The mayor publicized the kitchen disposal idea. Public sentiment was tested through questionnaires mailed out with bills of the municipal light and water plants. The response was so favorable the city advertised for bids for enough electric units for the entire town. On Dec 14, a bid of $75 per unit, installed, was accepted. Arrangements were made with the town's two banks to finance installment purchases.

U. S. Government to Fight Utility's 6% Rate Increase

As hearings on the Pacific Gas & Electric Co's application to the California Public Utilities Commission for a 6% rate increase opened, federal government representatives indicated they will object on grounds the boost would cost federal agencies $180,000 a year.

Attorneys for the General Service Administration are in San Francisco from Washington but have not yet officially presented their objections before the Commission.

However, PG&E spokesmen, in presenting their case, have shown that if the rate increase is allowed, $3,673,000 of the $8,820,000 gross revenue expected from the 6% raise will go to the federal government in 1950 at present tax rates.

They have also pointed out that where power purchased from the Central Valley project in 1948 cost 3.12 mills, it now, on their day-to-day delivery agreement with the Bureau of Reclamation, is costing 5.15 mills. Estimating Central Valley power purchases for 1950 at two billion kwhr, the company expects to pay the federal government about $10,290,000 as against $5,195,000 in 1948.

The PG&E is asking for an interim order for the 6% increase. Company officials point out that it will be the first increase in 20 years and is needed to meet increased operating costs and to continue their construction program.

PG&E total post-war construction costs will reach $500 million by the end of this year and $300 million is planned for 1950-51.

If the increase is approved by the Commission it will give the company an earning rate of 4.68%.

•

Penelec Gets PUC Okay to Purchase 3 Utilities

The Public Utility Commission has authorized Pennsylvania Electric Co, Johnstown, to purchase three Cambria County utilities for $300,000 after finding that the transaction would result in reduced rates.

The utilities are Gallitzin Electric Light Co, serving about 1,006 customers in Gallitzin and Tunnelhill Boroughs and adjacent territory; Cresson Electric Light Co, serving about 1,265 customers in Cresson and Sankertown Boroughs and adjacent territory, and Hastings Electrical Co, serving about 574 customers in Hastings Borough and adjacent territory.

•

Ontario Rates Increased

An increase in the cost of power sold wholesale to municipalities in the Southern Ontario and Thunder Bay Systems has been announced by the Hydro-Electric Power Commission of Ontario. The rate in Southern Ontario will be increased by $2.25 to $24.83 per hp. In the Thunder Bay area the new rate will be $23.08, an increase of $3. Both increases are retroactive to Nov 1.

CAROLINA ALUMINUM CO is completing expansion of its Cheoah project on the Little Tennessee River near Tapoco, N. C. A 40,000-hp turbine is being installed

250-Mw TVA Steam Plant Sought to Aid 2 National Defense Projects

FUNDS FOR A NEW, $37-million steam-electric generating plant of the Tennesssee Valley Authority will be sought soon after Congress returns to Washington next month.

A 250,000-kw plant will be proposed as a key development in two major national defense projects—the atomic energy and air research programs. Plans for the new steam station were first announced two months ago (EW, Oct 29, p 6). But its location was undecided at that time, and funds for its construction were scheduled to come out of an emergency budget for the Atomic Energy Commission.

The President now expects to include initial construction money for the plant in a supplemental appropriation request which he will submit to Congress early in January. The appropriation will be tagged directly for TVA, rather than as a portion of additional funds to be requested for AEC.

The site selected is near Bridgeport, Ala., at the point where Widow's Creek enters the Tennessee River. About 29 miles southwest of Chattanooga, this location also will be handy to the new Air Engineering Development Center, to be built on the Tennessee near Tullahoma, Tenn. TVA plans to start the Widow's Creek plant as soon as Congress supplies the necessary funds, perhaps in late January.

Purpose of the plant is twofold, TVA spokesmen asserted. It will supply energy to replace that now flowing into the area from the northern section of the TVA system, thus leaving more power in the Oak Ridge area for AEC requirements. And it will help to meet "major new off-peak demands" for TVA power for the Air Development Center.

Selection of the Tullahoma site for the latter project came just prior to announcement of the Widow's Creek project. Giant wind tunnels to be installed at the center are expected to be enormous consumers of electric power. Demand has been estimated as high as 375,000 kw for a single tunnel. Though the tunnels would not operate continuously, the Air Force, which will operate the project, wants power available for tests at all times, it is reported.

No such fight as that encountered by TVA in its request for funds to build the now-started New Johnsonville steam plant is anticipated in connection with Widow's Creek. Both AEC's expansion program—also expected to require more power—and the Air Research Center have been given top priority by the Administration as defense projects.

Initial installation at Widow's Creek, as at New Johnsonville, is planned to consist of two 125,000-kw turbo-generators. Although the new plant will be on the bank of the reservoir formed by TVA's Guntersville Dam, far down the river, it actually will be much closer to the Hales Bar Reservoir.

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September Energy Sales Rose 1.7% from 1948

Electric energy sales still are rising over the corresponding period of 1948, though at a less rapid rate than in recent months.

Sales to ultimate customers in September totaled 20,894,712,000 kwhr, a 1.7% increase over the 20,539,207,000 kwhr sold in September, 1948. The percentage rise in August was 2.9% and in July 3.1%.

Classification of Sales, September

Kilowatthour Sales September	Million kwhr 1949	Million kwhr 1948	Per-cent Change
Residential or domestic	4,618	4,018	+14.9
Rural (Distinct rural rates)	809	733	+10.3
Commercial or Industrial			
Small light & power	4,046	3,805	+ 6.3
Large light & power	10,158	10,721	— 5.2
Street and highway lighting	224	256	+ 8.9
Other public authorities	541	515	+ 5.1
Railways and railroads			
Street and interurban	274	297	— 8.0
Electrified steam railroads	179	195	— 8.1
Interdepartmental	46	50	— 8.5
Total to ult. cust.	20,895	20,539	+ 1.7

Revenues from ultimate customers amounted to $387,528,700, a 5.8% increase over the $366,155,300 received in September, 1948.

For the 12 months ended Sept 30 the average use per residential customer was 1,655 kwhr, or 8.2% above the previous year's 1,529 kwhr. The average annual bill rose 6.4%, from $46.18 to $49.15, and revenue per kwhr dropped 1.7% from 3.02¢ to 2.97¢.

•

License Held Unnecessary

Rockland Light & Power Co, Nyack, N. Y., will not need a Federal Power Commission license to build a 15,000-kw hydro generating plant on an aqueduct connecting the east branch of the Delaware River to Rondout Creek in eastern New York. However, FPC said the company must observe the water release schedule prescribed by the Supreme Court in 1931.

Part of IH-E's Plan for Dissolution Okayed

A proposal for retirement of 6% debentures, Part II of International Hydro-Electric System's dissolution plan, has been approved by Securities and Exchange Commission.

The principal of the past-due debentures, now reduced to $15,940,800, will be paid in full in cash out of funds to be obtained from sale of approximately $5 million worth of common stock of Gatineau Power Co, a Canadian subsidiary; a temporary bank loan of approximately $10 million; and available treasury cash. The amount to be retired on the debentures is the remainder due after consummation of Part I on July 1, when $100 in cash was paid on the principal of each one. Proceedings are still pending on Parts III and IV of the trustee's plan, which provide for allocation of the remaining assets between preferred and Class A stockholders and the final winding up of the holding company.

At the same time the Commission denied a stockholder's request for modification of its dissolution order. He contended that certain stockholders could make tax savings if International Hydro-Electric continued. SEC said this could not justify existence of a holding company inconsistent with the standards and policies of the Holding Company Act of 1935.

SEC RULINGS

Iowa Power & Light Co has received SEC authorization to sell $7.5 million of first mortgage bonds due Dec 1, 1979. Interest rate and price will be determined by competitive bidding. Proceeds will be used to pay $1.5 million principal amount of 2½% promissory notes issued to banks and to reimburse its treasury in part for construction expenditures (Release No. 9521).

Two Long Island Lighting Co common stockholders' petitions for leave to intervene, asking reconsideration and further hearing on the holding company's reorganization plan already approved by SEC, have been denied (Releases No. 9525 and 9556).

Central Power & Light Co, Corpus Christi, Tex., has received SEC authorization to issue and sell at competitive bidding $5.5 million of sinking fund debentures due 1974. Of the proceeds $1.4 million would be applied to the company's construction program and the balance to retire outstanding notes (Release No. 9526).

Seven New England Electric System subsidiaries have been given permission to make additional bank borrowings in amounts from $3 million (New England Power Co) to $50,000. Aggregate is $4,520,000. Proceeds would be used for construction (Release No. 9527).

Pennsylvania Electric Co has been authorized to issue and sell at competitive bidding $11 million of first mortgage bonds due 1969 and 70,000 shares of cumulative preferred stock, Series D. Proceeds would be applied to retirement of indebtedness and construction (Release No. 9538).

Ohio Power Co's proposed charter amendments have been approved by SEC. After the changes each common share will have one vote instead of 1/10; rights of preferred stockholders to elect the smallest number of directors necessary to constitute a majority of the full board of directors will accrue if and when dividends payable on preferred are in default in an amount equivalent to four full quarterly dividends (in lieu of six such dividend defaults); and the authorized capital stock will be increased from 3 million $100-par preferred and 5 million no-par common shares to 7 million and 10 million shares, respectively (Release No. 9533).

Western Colorado Power Co, Montrose, has been authorized to borrow an additional $300,000 for construction purposes from its parent, Utah Power & Light Co, Salt Lake City. Such borrowings, to be made during the remainder of 1949, will increase the parent's advances to $1 million. It is contemplated that further advances will be required to finance Western Colorado's 1950 construction program and that the $1 million of borrowings will be paid off then through long-term financing (Release No. 9547).

Wisconsin Public Service Co has been granted permission to amend its charter. The amendment provides that unless capital represented by common stock and surplus is 25% more than the total of capital stock and surplus and debt maturing more than one year after date of issue, dividends (other than those payable in common stock) or distribution on, or acquisition for value of, common stock may not exceed 75% of net income applicable to common for the preceding 12-month period; and if less than 20% may not exceed 50% of such net income. For purpose of such computation of debt and surplus, one third of the outstanding bonds of Wisconsin River Power Co, a subsidiary, is treated as debt capital of Wisconsin Public Service, and so much of Wisconsin River Power surplus as is applicable to the portion of the latter's outstanding stock owned by Wisconsin Public Service is treated as surplus of the parent company (Release No. 9540).

New England Public Service Co's 1947 plan for retirement of its $7 and $6 series prior lien preferred stocks will be reargued Jan 5. In 1947 the Commission reserved the right to rule later on whether additional amounts, not to exceed $20 and $10 per share, respectively, are payable to the holders of these securities in addition to the $100 payment made under the plan. There were 118,717 shares of the $7 and 60,000 shares of the $6 preferred retired. A reargument is necessary because less than a majority of the present five SEC members held office at the time of the original argument (Release No. 9549).

October Electric Utility Net Rose 14.5% over '48

Net income of the larger privately owned electric utilities in the United States was 14.5% higher in October than for the corresponding month a year ago, according to preliminary figures announced by Federal Power Commission.

For October, 1949, net income was $54,767,000; for October, 1948, $47,850,000. Gross income, including other utility operating income, amounted to $76,557,000, an increase of 12.4%.

Electric operating revenues for October were $362,113,000, or 1.4% above the October, 1948, figure of $357,249,000. Revenue deductions (including operating expenses, depreciation, and taxes) amounted to $290,137,000, which was 0.9% under the total for October, 1948.

FINANCIAL BRIEFS

American Power & Light Co's reorganization plan will become effective some time in January, a letter to stockholders reports. The plan, which received court approval Nov 14, provides for distribution of most of AP&L's assets to its common and preferred shareholders. The sole dissenting stockholders at court hearings on the plan has waived his right to appeal the court's approval order.

Holders of Interstate Power Co debenture escrow certificates will receive a distribution amounting to $32.75 per $1,000 debenture on Jan. 1.

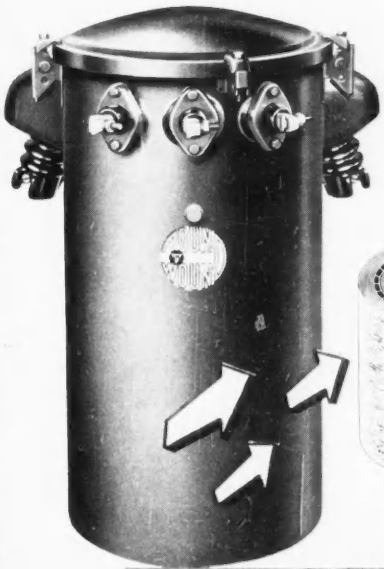
Additional bonds and preferred stock are expected to be sold in February by Metropolitan Edison Co to finance its 1950 construction program. Tentative plans call for $7 million in bonds and $3 million in preferred. The utility also expects its parent, General Public Utilities Co, to make a capital contribution through purchase of additional Metropolitan common.

Northern States Power Co of Minnesota plans about $30 million of additional financing after 1949 to provide funds for the rest of its 1947-51 construction program.

Central Hudson Gas & Electric Corp expects to sell first mortgage bonds and preferred debentures to help finance the $23,373,000 balance of its 1949-52 construction program.

Cut failures... cut costs... with these features of

L-M ROUND-WOUND TRANSFORMERS



High Short-Time Overload Capacity

Stepped core cross section provides oil passages between core and coil; these and the long round coils expose more surface to the oil, assuring better cooling.

High Impulse Strength

Coils are wound *round* right onto the core—no need to mallet coils into shape. Round coils can be wound tighter with better insulation distribution and improved impregnation, assuring higher average impulse strength.

Balanced Performance

L-M Round-Wound design provides balanced performance characteristics with their many advantages including better regulation, and high short circuit strength.

Quality Craftsmanship

Sealed tank construction, an L-M "first", is one of many quality construction features that assure long life for L-M Round-Wound transformers.

L-M Round-Wound transformers have a record of remarkably few failures—from all causes including lightning. This fact, together with their low operating cost, makes Round-Wounds a most desirable investment for both new construction and replacement of old, high-cost equipment.

Want more information? Ask the L-M Field Engineer, or write Line Material Co., Transformer Division, Zanesville, Ohio.

LINE MATERIAL... TRANSFORMERS

Complete Coordinated Equipment for All Distribution Requirements

CHRISTMAS TREE, 105 ft high, gets free power from the Los Angeles Bureau of Water & Power. Some 2,000 lamps provide a load of 45 kw

ELECTRIC TRAIN display is an annual Christmas tradition at the Cin was built by the Brotherhood of Railway Clerks to show its activitie

The Uti

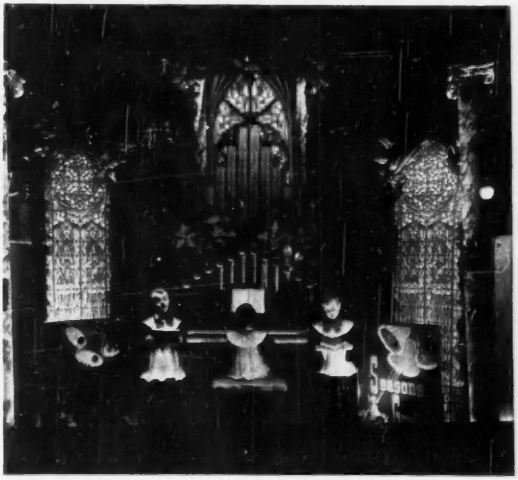
CARILLONIC BELLS have been installed by the Cincinnati Gas & Ele tric Co. Members of the local guild of organists play Christmas caro

Gas & Electric Co. The diorama play attracts those of all ages

CHARITY is annual Christmas project of Washington Water Power Co line crews. Here a crew stocks its line truck with food for the poor. This is only one of many utilities whose workers aid the needy at Xmas

ties Observe Christmas

CAROL SINGERS present a program in the lobby of building of Southern California Edison Co. Many other utilities follow this merry custom



SHOW WINDOW of Boston Edison Co's headquarters is devoid of commercialism. Such windows give display men chance to show artistic ability

YOU CAN BE **SURE**.. IF IT'S

Westinghouse

"500 transformer years of service convince us 'CSP' is better"

The record is clear and complete in this case history of the way "CSP"* transformers practically eliminated outages for twelve years.

The facts are these:

In 1932, the utility built a line to a neighboring town some 40 miles distant, using conventional-type transformers. The next four years were plagued with service calls to this line because of both lightning and overload outages.

In 1936, two "CSP" transformers were installed in an effort to find a way to halt the mounting service costs. So successful were these two installations that additional "CSP" units have been added each year, until now over 500 transformer years of service, with only one transformer failure, have proved the worth of Westinghouse "Completely Self-Protecting" transformers.

This much is sure: The *built-in* protection of "CSP" transformers reduces outages on both lightning and overload. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-70527-A

** Trademark—Reg. U. S. Pat. Off.*

WANT MORE FACTS? Here are 36 pages of product information you'll want to have about Completely Self-Protecting transformers. Covers construction, operation, mounting and servicing. Ask for B-4249.

Call the Westinghouse Salesman

Westinghouse "CSP" TRANSFORMERS

SINGLE PHASE **THREE PHASE** **BANKED SECONDARY**

Output Sets New Record, Probably High for 1949

Electric power output again set a record—probably its high point for 1949—in the week ended Dec 17.

The nation's central stations pushed the line almost off ELECTRICAL WORLD's output graph by distributing 5,996,606,000 kwhr last week. This figure knocked into a cocked hat the record of 5,881,360,000 kwhr set the week before and was 3.6% above the corresponding period of 1948. For the week ended Dec 18 last year, 5,790,191,000 kwhr was distributed.

Mild weather in the South and East and the approach of the Christmas holidays make another record unlikely this year.

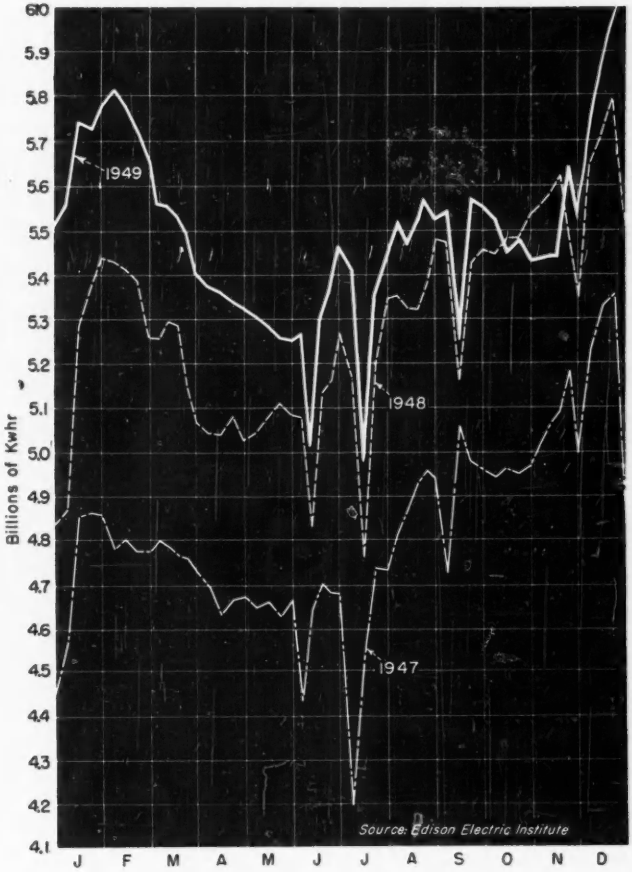
Again every region showed an increase over the corresponding week. Highest gain was that of the South Central area, 10.2%.

Weekly Output, Millions Kwhr

1949		1948		1947	
Dec 17	5,997	Dec 18	5,790	Dec 20	5,368
Dec 10	5,881	Dec 11	5,705	Dec 13	5,327
Dec 3	5,743	Dec 4	5,646	Dec 6	5,218
Nov 26	5,537	Nov 27	5,349	Nov 29	4,983
Nov 19	5,644	Nov 20	5,627	Nov 22	5,180
Nov 12	5,435	Nov 13	5,571	Nov 15	5,084
Nov 5	5,435	Nov 6	5,564	Nov 8	5,057
Oct 29	5,433	Oct 30	5,555	Nov 1	5,009
Oct 22	5,430	Oct 23	5,539	Oct 25	4,964
Oct 15	5,481	Oct 16	5,482	Oct 18	4,946
Oct 8	5,450	Oct 9	5,482	Oct 11	4,958
Oct 1	5,521	Oct 2	5,449	Oct 4	4,935

Percent Change from Previous Year

	Dec 17	Dec 10	Dec 3
New England	+ 6.8	+ 6.9	+ 7.2
Mid-Atlantic	+ 0.2	+ 1.1	+ 1.0
Central Industrial	+ 1.0	+ 1.0	— 2.4
West Central	+ 7.0	+ 6.4	+ 5.8
Southeast	+ 5.3	+ 4.3	+ 4.6
South Central	+10.2	+ 9.8	+ 8.0
Rocky Mountain	+ 5.1	+ 0.1	+ 0.3
Pacific Coast	+ 5.5	+ 4.1	+ 1.3
Total United States	+ 3.6	+ 3.1	+ 1.7



MEETINGS

Canadian Electrical Association
Annual Winter Conference, Chateau Frontenac, Quebec, January 16-18.

Plant Maintenance Show and Conference
Auditorium, Cleveland, Ohio, January 16-19.

Southeastern Electric Exchange
Industrial Relations Conference, sponsored by Edison Electric Institute Industrial Relations Committee, SEE Personnel Administration Section, and Southwest Personnel Committee, Roosevelt Hotel, New Orleans, La., January 19-20.

Southwest Air Conditioning Exposition
Hall of Agriculture and the Poultry Building, Fair Park, Dallas, Tex., January 23-27.

American Society of Heating and Ventilating Engineers
Annual Meeting, Adolphus and Baker Hotels, Dallas, Tex., January 23-27.

American Institute of Electrical Engineers
Winter General Meeting, Hotel Statler, New York, N. Y., January 30-February 3.

★Missouri Valley Electric Association
Power Sales Conference, President Hotel, Kansas City, Mo., February 9-10; Engineering Conference, President Hotel, Kansas City, Mo., March 29-31.

Edison Electric Institute
Electrical Equipment Committee, Netherlands-Plaza Hotel, Cincinnati, Ohio, February 13-14; Industrial Relations Committee, Palmer House, Chicago, Ill., February 16; Transmission and Distribution Committee, Statler Hotel, Detroit, Mich., February 20-21.

Pennsylvania Electric Association
Transmission and Distribution Committee, Penn-Harris Hotel, Harrisburg, Pa., February 16-17.

National Adequate Wiring Bureau
Adequate Wiring Conference, Statler Hotel, St. Louis, Mo., February 16 and 17.

American Society for Testing Materials
Committee Week and Spring Meeting, Hotel William Penn, Pittsburgh, Pa., February 27-March 3.

National Rural Electrification Association
Annual Convention, Hotel Stevens, Chicago, Ill., March 6-9.

National Electrical Manufacturers Association
Edgewater Beach Hotel, Chicago, Ill., March 13-16.

★American Public Power Association
Annual Convention, Shoreham Hotel, Washington, D. C., March 28-30.

★ Additions This Week

Would Buy Utility

Kentucky Utilities Co has asked the Federal Power Commission for authority to buy all the Kentucky property of Kentucky Electric Power Co, Baltimore, Md. The buying company would pay $375,000 plus adjustments. The property, in Hopkins and Christian Counties, consists of real estate, a generating station, transmission lines, and other facilities. The companies are now interconnected.

IN THE INDUSTRY

FISCHER BLACK

SELLING LIGHTING through meter readers, cashiers, local managers, and other employees is one way Community Public Service Co builds load. In a recent campaign to promote floor and study lamps some 200 employees sold 3,412 units in the company's territory in Texas, Kentucky, and New Mexico. The success of the promotion is measured by the fact that sales were 46% above the quota of 2,337.

Employees worked on their own time and received a bonus of $1 for each floor lamp and of 50¢ for each study lamp sold. The successful techniques used during the campaign were door-to-door selling and home demonstrations. In most cases where a sample was left, it resulted in a sale on the next visit.

Prizes including four radios and $25 were presented to the employees winning in five categories. These awards were given for lamp sales, bulb sales, customers called upon, watts sold, and total dollars. One active salesman managed to win three of the radios and $25.

An employee sold 127 lamps in Silver City, N. M., having only 1,900 company customers. In Tularosa, N. M., 107 lamps were sold in an area having only 400 customers, making a record of more than one out of every four potential sales. A total of 12,661 bulbs was distributed to the 9,800 customers contacted.

An incentive was provided for the customer. He was allowed to buy lamps for 95¢ down, remainder to be paid in monthly installments of $1 on study lamps and $2 on floor lamps. Bills are included as enclosures with the monthly electricity bill.

The program was designed to increase the consumption of the minimum-bill customer. Prospects were secured from this group, and apparently they were in a receptive mood. Over the two-month period of the campaign there was a local advertising campaign. Dealers were not included in this promotional effort. Of course this method of load building may not be adaptable in the larger systems or in the big towns, but the technique as applied in Community Public Service territory was a great success.

Community Public Service is also following the pattern of the other Texas utilities who are promoting electric ranges and finding that they can be sold. A cooperative arrangement with dealers provides for the furnishing by the company of all wiring material for range installations. A few years ago this company offered a raise to local managers who purchased an electric range. Virtually all of them took advantage of this opportunity.

Texas Electric Service Co and Dallas Power & Light Co are both going forward with electric range promotion. In Dallas they say range saturation will go up from 2.5% now to 10% two or three years from now. Their record will show that this is not fantastic.

It is easy to understand from this report why one utility executive in Texas recently said that the only real problem he had was keeping up with the load growth.

TECHNICAL NOTES

ARCHER E. KNOWLTON

Storage batteries are hardly adequate for power station service unless they are capable of supplying all probable simultaneous breaker requirements during system disturbances (because the charging equipment may then be inoperative) in addition to normal station-emergency requirements.

Wind power at Yalta in 1931 reached 75 kw with 279,000-kwhr generated; Denmark has a 70-kw unit with 24-meter wheel diameter that produced 118,729-kwhr running daytimes in 1947.

Pole-hole diggers afford greatest safety in use if the operators can manipulate them without having to work too close to the rotating members.

Mills of the gods may grind exceedingly fine but in power plants excessively fine grinding (particularly of high volatile coals) justs means more pulverizer kwhr and more pulverizer maintenance.

Natural gas sometimes shrinks in supply in extreme cold weather but a new process for making 1,000-Btu gas from Bunker C oil will bolster the deliveries.

Overloading of units admittedly realizes some neat returns but it also puts a pinch on regulating margins. This could prove to be an offsetting loss if explored.

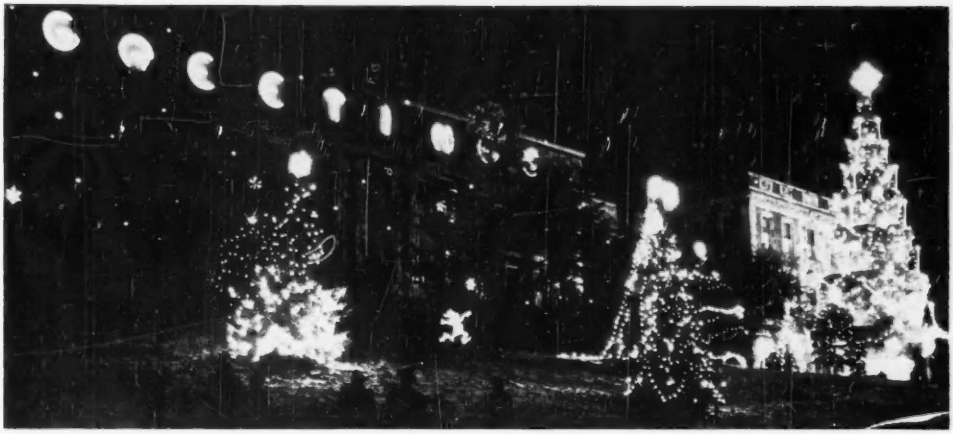
Distribution loadings surely will rise when lighting is increased sevenfold in the schools of the country, as it should be, fourfold in the factories and also fourfold in the homes.

Degreasing and descaling can be done in seconds by supplementing ordinary caustic solutions with supersonic waves of 33,000 vps from a magnetostriction transducer.

Corona in generator coils can be ameliorated by stuffing interstices with an insulating putty but the problem is to fill the spaces deep into the length of the coil.

Dust collectors enhance boiler and turbogenerator availabilities when they reduce the severity and frequency of induced draft fan maintenance.

MANUFACTURERS and MARKETS



CHRISTMAS GREETINGS from General Electric Co shine from the Engineering Building at Nela Park for the first time since 1941. Central figure in the display, resumed after end of the war and postwar bulb shortage, is a decorated 60-ft fabricated tree

MANUFACTURING BRIEFS

Milwaukee's first mechanical kidney, made by Allis-Chalmers Manufacturing Co, was used recently to save the life of an Escanaba, Mich., man dying from uremic poisons. The first machine, which cost $10,000 to build, was presented by A-C to the people of Milwaukee as a community service. Two others have been made. One, purchased by an unknown donor, will be given to the Marquette University medical school; the other will be sent to the Cleveland Clinic Foundation.

Schramm, Inc. West Chester, Pa., manufacturer of air compressors, celebrates its fiftieth anniversary this year. Chris D. Schramm started with a Philadelphia machine shop for servicing and selling gas engines. Now Schramm compressors are built in a factory covering 17 acres.

A "several-million-dollar" expansion of General Electric Co's transformer manufacturing and testing facilities at Pittsfield, Mass., is under way. The new facilities, expected to be in operation about the middle of 1950, will more than double production capacity. The expansion will make possible testing, assembling, and shipping of three-phase power transformers with more than twice the capacity of any transformers yet built, GE said.

Major television manufacturers, pushing their own color television systems for Federal Communications Commission approval, have another rival. A new all-electronic system entirely different from any yet offered has been developed by Dr Victor A. Babits and H. Frank Hicks, Jr, of Rensselaer Polytechnic Institute. Still in the laboratory stage, it achieves color control with either an electric or magnetic field using a single camera tube at the studio and a single picture tube in the home receiver. No mechanically moving parts are required, and present sets could receive in black and white color television transmitted by the process. It also can be used to take colored motion pictures on black and white film.

"Radiolympia," Britain's National Radio Show drew nearly 400,000 paid admissions, 40% above prewar figures, despite the difficult international and internal trade conditions. Three associated companies took orders for some $3-million worth of major domestic products.

BSA Named CSA Agent for Testing Equipment

The British Standards Association expects to begin acting as agent for the Canadian Standards Association early in 1950.

Under a recent agreement, still to be approved by CSA headquarters in Toronto, BSA would conduct in Britain all preliminary testing of British-made electrical equipment seeking the CSA approval required for Canadian imports. This is expected to speed up approvals, which have been delayed because of the rapid increase in applicants. The arrangement is subject to periodic CSA review.

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Canadians Standardize Transformer Bushings

Canadian Electrical Manufacturers Association has announced the adoption of a standard to permit interchange of bushings on power transformers produced by the various Canadian transformer manufacturers. It covers bushings in all standard voltage and current ratings up to and including 69 kv.

This standardization program, reported likely to effect great economies

for all electric utilities in Canada, has been described as one of the most important contributions that have been made to standardization in central station apparatus. Transformer bushings made to this CEMA Standard are now in regular production by the Canadian bushing manufacturers.

The CEMA Standard will be available for distribution about Dec 15 and will be obtainable at 60¢ a copy from the Association headquarters, 126 Davenport Road, Toronto, Canada.

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New Sales Assignments

Electrical manufacturing companies have appointed the following sales representatives:

Hanson-Van Winkle-Munning Co. Matawan, N. J., has appointed two new district representatives. Wilfred G. Cryderman, formerly in Dayton, has been transferred to the Cleveland office, and Gordon Lyons has been named sales representative in Dayton.

Leader Electric Co. Chicago, has made J. L. Kilpatrick Eastern sales manager, with headquarters in New York City. He will supervise sales-engineering activities in the Eastern states and will serve as liaison for factory operations and in projected planning of Leader product developments.

Insulation Manufacturers Corp. Chicago, has opened a new office in the Oliver Building, 535 Smithfield St, Pittsburgh 22. William A. Carlstrom, formerly of the Detroit office, will be manager. Associated with him will be Miss Katherine Husted.

Ward Leonard Electric Co. Mount Vernon, N. Y., has established a branch office at 4030 Chouteau Ave, St. Louis 10. Charles B. Durling, Jr., is district manager.

Ward Leonard Electric Co's Cincinnati representative, Storer & Schenum, has changed its name to Sheldon Storer & Associates. The address remains Transportation Building, 307 East 4th St, Cincinnati 2.

Hertner Electric Co. Cleveland, has named Harold L. Boggs, St. Louis, district representative in Missouri.

Swartwout Co. Cleveland, has made two new appointments in the power plant equipment division. Robert J. Jones will direct the New York division at 103 Park Ave, which will also function as a factory sales branch office. Richard J. Frost becomes Philadelphia district manager.

Carpenter Steel Co. Reading, Pa., has appointed Omar V. Greene, New England sales manager, with headquarters in Hartford, Conn. He succeeds Wynn F. Rossiter, who has been made assistant to the vice-president. John W. Thompson, formerly manager of alloy steel sales, has been made manager of sales development to succeed Greene.

Helwig Co. Milwaukee, has appointed R. W. Fletcher, 7 Front St, as its San Francisco representative.

NEW ELECTRICAL CONSTRUCTION

A weekly selection of U. S. electrical construction projects announced by private and government utility systems involving more than $70,000. Also listed are major industrial and construction jobs where electrical work is indicated or implied

UTILITIES

Proposed Construction

Colorado—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, 1 control board, 5 overcurrent relays, 1 tripping relay, 1 circuit-breaker control switch, 2 ammeters, 8 current transformmers for Greeley substation, Colorado-Big Thompson Proj., Spec. R7-95 (Region 7). L. N. McClellan, ch. engr.

Idaho—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal eCnter, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars, Mountain Home, Idaho, circuit breakers, horn-gap switch, disconnecting switches, lightning arresters, neutral circuit for Mountain Home substation, Boise Proj., Spec. 2862. L. N. McClellan, ch. engr.

Idaho—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Emmett, 3 outdoor transformers for special heating service for Black Canyon Dam, Boise Proj., Spec. 2858. L. N. McClellan, ch. engr.

Idaho—Bureau Reclamation, Dpt. Interior, Anderson Dam, installing electrical and mechanical equip. for Anderson Ranch Power Plant, switchyard and outlet works, Boise Proj., Spec. 2852. L. N. McClellan, Bldg. 1-A, Denver Federal Center, Denver, Colo., ch. engr.

Kansas—Wheatland Electric Co-operative, Scott City, 81.3 mi. single pole 69 kv rural distr. lines in Scott, Lane, Wichita, Greeley and Hamilton Counties and substations at Brighton, Leoto, Tribune and Syracuse, $275,000. Frank Horton & Co., Lamar, Mo., engr.

Louisiana—U. S. Eng., foot Prytania St., New Orleans, Zone 9, power house, utilities, appurtenances, tender's house, office, at Bayou Sorrel Lock, located on Lower Grand River in Iberville Parish, approx. 15 mi. southwest of Plaquemine.

Md., Baltimore—P. Wks. Office, Headquarters, Fifth Naval Dist., U. S. Naval Base, Norfolk 11, Va., grounding radar platform and antenna mast at Naval Reserve Training Center, Fort McHenry, NOY-19748 (23304) (DB-300), Spec. 23-394. Plans deposit $10.

Minn., Elk River—Rural Co-operative Power Assn., Maple Lake, piping, valves, fittings, miscellaneous related equipment in generating plant, near here, also unloading, erecting all owner-furnished equipment except boiler, turbine, and coal and ash handling equip., $500,000. R. D. Thomas & Assoc., 400 Metropolitan Life Bldg., Minneapolis, engrs.

Montana—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Coram, Mont., outdoor power transformer, outdoor power circuit breakers, outdoor disconnecting switch, outdoor horn-gap switches, outdoor station-type, lightning arresters, outdoor current transformers, for Hungry Horse Switchyard, Hungry Horse Proj., Spec. 2860. L. N. McClellan, ch. engr.

Montana—Hill County Electric Co-operative, Havre, 168 mi. rural distr. lines, 2-way radio and sys. imprvs., Hill Co. **$675,000.**

Nebraska—Niobrara Valley Electric Membership Corp., O'Neill, rural distr. lines, Holt Co. **$886,000.** Henningson Eng. Co., Standard Oil Bldg., Omaha, consult. engr.

Texas—Medina Electric Co-operative, Inc., Hondo, 493 mi. rural distr. lines and sys. imprvs., Medina Co. **$820,000.**

Tex., Lubbock—Hilton Hotels Corp., c/o C. N. Hilton, Lubbock, plans by Furr & Martin, Lubbock, 12 story, bsmnt., 250 rooms, steel frame hotel, concrete pier and beam fdn., 4 electric elevators, **$2,250,000**; heating and power plant, **$200,000.**

Washington—Bonneville Power Admin., 287 N. E. Oregon St., Portland, Ore., constr. Olympia-Covington, 230 kv transmission line, Thurston, Pierce and King Counties, Inv. 4917. Plans deposit $25. L. C. Stewart, 827 N. E. Oregon St., Portland, Ore., engr.

Washington—Bonneville Power Admin., 827 N. E. Oregon St., Portland, Ore., 4 microwave stations, Olympia, Chehalis, Ranier and J. D. Ross, Inv. 4918. Plans deposit $25. L. C. Stewart, 827 N. E. Oregon St., Portland, Ore., **engr.**

Wisconsin—Price Electric Co-operative, Inc., Phillips, 65 mi. rural distr. line and sys. imprvs., Price Co. **$282,000.**

Low Bidders & Contracts Awarded

Arizona—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., Dec. 6, switchgear assemblies, circuit breakers for Wellton-Mohawk Pumping Plant 1, 2 and 3, Gila Proj., Spec. 2817, from Westinghouse Electric Corp., Gas & Electric Bldg., Denver, Colo., **$74,694.**

Colorado—Mountain View Electric Assn., Limon, Nov. 30, 255 mi. rural distr. lines, Lincoln, Elbert, Washington, and El Paso Counties, from E. A. Reither, 2123 Aldridge St., Minneapolis, Minn., **$295,473.** Est. $450,000.

Montana—Bureau Reclamation, Great Falls, Dec. 6, 100 mi. 115 kilovolt power transmission line between Havre and Shelby in northern Montana, to carry power from Fort Peck Dam, from Smith Constr. Co., 1000-14 Ave. N., Nashville, Tenn., **$599,432.**

N. M., Lovington—Lea County Electric Co-operative, Inc., Lovington, Nov. 30, 16,000 sq. ft. steel electric power plant, concrete fdn., from Lembke Constr. Co., Hobbs, **$180,158.** Est. $150,000.

Wash., Arlington—Yards & Docks Annex, Navy Dpt., Arlington, Va., Dec. 9, 152x165 ft., rein.-con. transmitter bldg. at Jim Creek Naval Communication Station, Specs. 21922, from Construction Engineers & Contractors, Inc., 801 Port of Tacoma Rd., Tacoma, **$999,735.**

INDUSTRIAL, COMMERCIAL & PUBLIC BUILDINGS

Proposed Construction

Ala., Mobile—Providence Hospital, c/o Charles H. McCauley, archt., Jackson Bldg., Birmingham, hospital, $3,500,000. Plans deposit $50.

Calif., Los Angeles—University of California, Bd. Regents, 405 Hilgard Ave., 150,000 sq. ft. chemistry-geology bldg., $3,000,000. Extended date. Kaufman & Stanton, 627 S. Carondelet St., archts.

Mo., St. Louis—Syndicate, c/o Sidney Salomon, Jr., Ambassador Bldg., and Sam Levin, 506 Olive St., Zone 1, plans by Leo F. Abrams, 1207 Delmar Blvd., Zone 3, 12 brick, rein.-con. apartment bldgs., Hampton Ave. between Scanlon and Eyler Aves. Approx. **$7,000,000.**

N. Y., New York—Memorial Hospital, 444 E. 68 St., clinic, childrens wing, operating rooms, recovery ward, physiology laboratory, 67 St. **$5,250,000.**

Low Bidders & Contracts Awarded

Tex., Houston—Southwestern Bell Telephone Co., 1010 Pine St., St. Louis, Mo. 7 story, 125x142 ft., brick, hollow tile, concrete block, cut stone, granite, steel toll bldg., concrete beam and pier fdn., to W. S. Bellows Constr. Corp., 716 N. Everton St., **$3,000,000.** Bids 11/10.

A HOLIDAY MEMORY . . .

Time was when Christmas trees were lighted with wax or tallow candles. It took time to put them on the tree . . . each had to be painstakingly located to assure safety against fire. They had to be lighted one at a time . . . and so carefully, too!

Today . . . the candle on the tree is but a holiday memory. In thousands upon thousands of homes the Christmas tree is adorned in colorful array at the mere flick of a switch . . . an accomplishment made possible by modern electric distribution systems.

G & W has pioneered in the development and manufacture of many devices for safe, economical electric distribution . . . devices that are in service all over the nation, helping contribute to happy holiday enjoyment. And while G & W devices in service are contributing to Christmas enjoyment, we at G & W wish all of our friends and associates in the industry a joyous holiday season.

G&W ELECTRIC SPECIALTY CO.
7780 DANTE AVENUE • CHICAGO 19, ILLINOIS

. . . with MOLONEY indoor load center type UNIT SUBSTATIONS!

You *eliminate* fire hazard when you use Moloney Indoor Load Center Type Unit Substations with Askarel or Dry Type Transformers because . . .

- Askarel Transformers contain a non-inflammable cooling and insulating medium
- Dry Type Transformers contain Class B insulating materials and are Natural Draft Air Cooled
- All live parts are totally enclosed

PLUS THESE EXTRA SAFETY FEATURES

- Interlocks prevent operation of primary switch without first tripping the secondary breakers
- Primary fuse compartment cannot be opened unless primary switch is in "open" position

PLUS THESE OPERATING ADVANTAGES

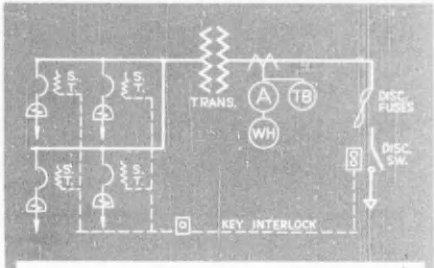
Greater Economy . . . No expensive long runs of heavy secondary copper when substation is placed indoors at center of load!

Better Voltage Regulation . . . resulting from shorter runs permitting more efficient use of power.

Greater Convenience . . . Delivered complete in one unit . . . or in sections. Permits access to various parts . . . ease of inspection and maintenance.

Moloney Load Center Type Unit Substations with Dry Type or Askarel Transformers are being used in Power Generating Stations for Station Service, in Industrial Plants and Office Buildings.

ME49-21



Moloney Load Center Type Unit Substation consisting of three sections: Primary Incoming Line Section . . . 5Kv Askarel-filled disconnect switch, primary power fuses, voltmeter and watthour meter with current and potential transformers; Transformer Section . . . 300 Kva, 3-phase 60 cycle, Moloney Askarel cooled transformer, 4160Y to 480 volts; Secondary Switch Gear Section . . . Four feeder Air Circuit Breakers of 25,000 amperes interrupting capacity.

MOLONEY ELECTRIC COMPANY

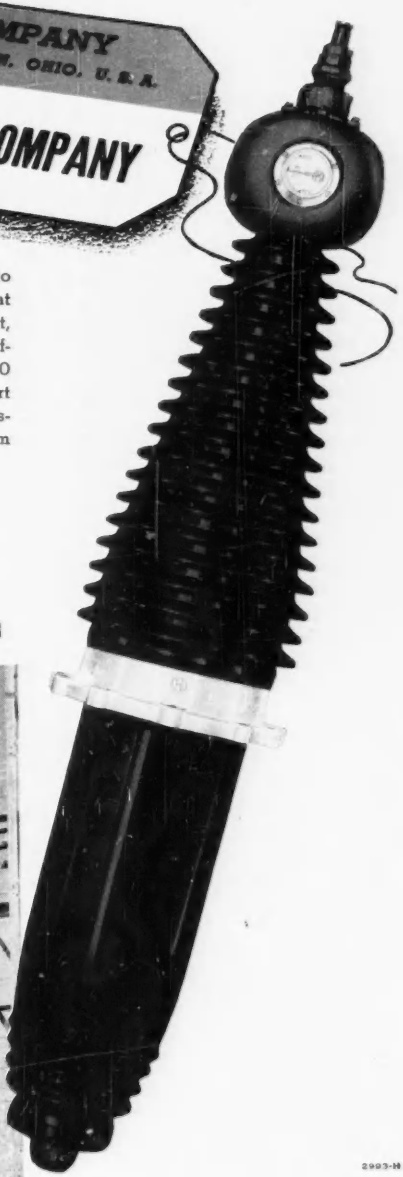
Sales offices in all principal cities

FACTORIES AT ST. LOUIS 20, MO., AND TORONTO, ONTARIO, CANADA

OHIO BRASS COMPANY
BARBERTON DIVISION · BARBERTON, OHIO, U. S. A.

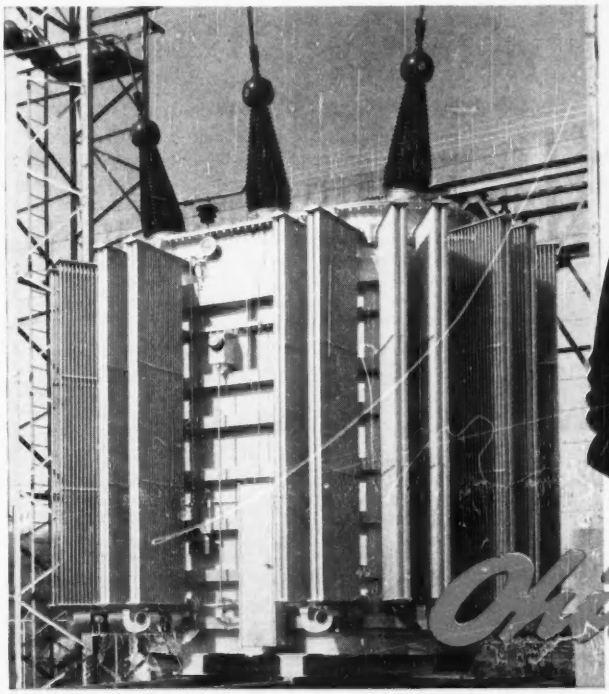
TO:
MOLONEY ELECTRIC COMPANY

THIS large, new Moloney transformer has recently gone into service for converting generator voltage to transmission voltage at an important power project. Some of the characteristics of this unit, as outlined by Moloney Electric Company, are . . . "30,000 kva self-cooled, 40,000 kva forced-air-cooled, three-phase, 60 cycles, 13,200 volts delta to 161,000 volts wye, for transmission purposes. Inert gas pressure system for oil preservation contains three-stage pressure regulating equipment. Tank designed to withstand full vacuum without oil, and . . . "



BUSHINGS

ONE OF THE FINEST COMPONENTS OF ANY TRANSFORMER



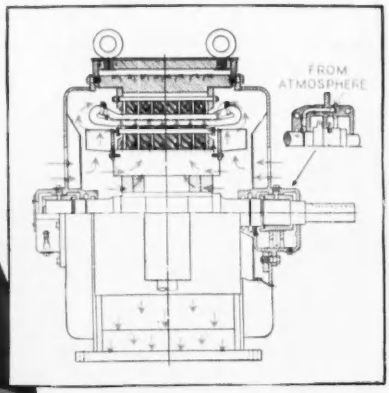
2993-H

Ohio Brass

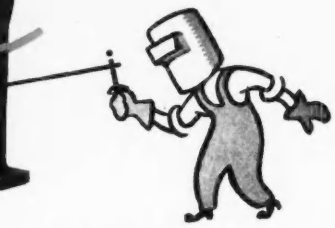
MANSFIELD, OHIO

Things you'll like about this new motor

New, better ventilation



Inset in cross-section shows horizontal section through bearing and housing and illustrates sealing to prevent ventilating air from sucking oil or oil vapors out of bearing.



DIRECTED AIR-FLOW DOES IT

You can do things in fabricating with steel that you can't easily do with cast iron. That's one of several reasons why the *ventilation* of the new Elliott Fabri-Steel motor hits a new high. The air flow is *directed*—coming in the large openings in both bearing brackets, driven by a radial fan *through* and *around* rotor, stator core, and coil end turns, to the outer shell or wrapper plate, then *down* and *out* through the inclined baffles. There is no recirculation—the air goes through once, picks up heat and takes it out. With its *directed* ventilation, the Fabri-Steel motor actually runs cooler than if it were operating in the open air without a cover.

Frame, wrapper plate and bearing brackets of this new standardized motor are all of crack-proof, tough, rigid, fabricated steel.

Built in smallest frame, 125 hp 14 pole, up to largest frame, 3000 hp 4 pole—drip-proof, splash-proof, enclosed self (pipe or base) ventilated, enclosed separately (forced) ventilated, enclosed self ventilated with built-in coolers. Write for bulletin PB 7000-2.

OTHER THINGS YOU'LL LIKE IN THIS NEW MOTOR

- 30% lighter weight in bearing bracket and 10% lighter in entire motor, than in old-type cast iron designs—
- Split sleeve bearings—
- Easy access to bearings for inspection or replacements—
- The toughness, rigidity, and streamlined design of welded steel construction—
- Dynamically balanced rotor minimizes vibration—
- Uniform air gap—
- Conduit box adjustable to take cable from any of four directions

ELLIOTT COMPANY

DEPT. EN • RIDGWAY DIVISION • RIDGWAY, PA.

Plants in JEANNETTE, PA. • RIDGWAY, PA. • AMPERE, N. J. • SPRINGFIELD, O. NEWARK, N. J. • *DISTRICT OFFICES IN PRINCIPAL CITIES*

L775a

Elliott FABRI-STEEL Motors

NEWS ABOUT PEOPLE

WILLIAM N. PATTEN, a director and former vice-president of Stone & Webster Engineering Corp, Boston, was honored Dec 5 on completion of 50 years with the organization. On behalf of the general safety committee J. R. Lotz, left, chairman of the board, presented a bronze plaque symbolizing a newly established William N. Patten Trophy to be awarded annually for the Stone & Webster project with the best safety record. Others shown in the picture are Patten, second from left; Whitney Stone, president of Stone & Webster, Inc; and R. T. Branch, president of Stone & Webster Engineering Corp, New York

Westinghouse Advances Engineers and Salesmen

Westinghouse Electric Corp has made several recent appointments in sales and engineering positions.

John E. Payne has been made manager of the central district. From his headquarters in Pittsburgh, Payne will supervise the company's apparatus business in the Pittsburgh, Cleveland, Detroit, and Cincinnati areas.

New manager of power transformer sales for the transformer division at Sharon, Pa., is J. L. Cross. He succeeds C. H. Bartlett, recently made sales manager for the entire transformer division.

New Westinghouse engineering appointments include F. P. Gaugher, engineering and service manager in Westinghouse's New England district for the past five years, as manager of engineering for the industrial control division at Buffalo, N. Y., and M. L. Gardner to succeed Gaugher in the New England district. Gardner most recently has been engineering manager for the district engineering and service department at East Pittsburgh.

A member of the Engineers' Society of Western Pennsylvania and the American Society of Mechanical Engineers, Payne joined Westinghouse in 1925. He has served as an industrial salesman, manager of the machinery resale section, manager of industrial sales for the central district, and headquarters industrial sales manager. In October, 1947, he was appointed manager of all industry sales departments.

In his new position Cross will supervise sales activities of power transformers 501 kva and above, converter, rectifier, regulating and grounding transformers, and current limiting reactors for the transformer division. With Westinghouse since 1933, he was in the New York sales office of the central station division before going to Sharon in 1941. In May, 1946, he was appointed sales engineer for the central and southeast districts and in January, 1949, assistant to the sales manager with responsibility for association activities.

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T. L. Bissell, manager of the industrial power division of Alabama Power Co, has resigned to open a sales engineering agency in Charleston, S. C. He will be succeeded by **Edward A. Wilson,** a member of the department since 1922. **W. S. Seale,** sales supervisor, has been appointed merchandise sales manager. He joined the company in 1932 as a salesman.

New Interior Secretary Was Early New Dealer

(See Front Cover)

One of the few early New Dealers still in administrative office, new Interior Secretary Oscar Littleton Chapman holds the federal record for continuous service at the top level of an executive department. He spent 16 years, beginning May 4, 1933, in the "Little Cabinet," as assistant secretary under Interior Secretary Harold Ickes and then as undersecretary to Julius Krug.

Represents West

Privately and professionally, Virginia-born Chapman is a Westerner. He has been active in Western politics and is credited with President Truman's success in the Far West in the 1948 campaign. In addition to traveling widely in the region in the interests of Departmental reclamation and public power projects, Chapman took part in the late President Roosevelt's 1940 campaign, was his Western manager in 1944, and covered some 26,000 miles last year on Truman's behalf.

As a career Interior administrator Chapman has become a leading spokesman for resource development, conservation, and federal power in the West. He has endorsed the Administration-sponsored plan for a Columbia Valley Authority and the St. Lawrence Seaway project.

Native of Virginia

Born in Omega, Va., Oct 22, 1896, the new Interior Secretary served in the Navy in 1918 and was a charter member of the American Legion. Because of his health Chapman in 1920 moved to Denver, where he studied law and became a probation officer in the famed Judge Ben Lindsey's juvenile court. In 1929 he entered law practice with the late Edward P. Costigan, whose successful Senatorial campaign he managed the next year.

Chapman's first venture into politics came in the mid-twenties, when he and other veterans captured one of Denver's Democratic precincts in the party organization. Later he managed Alva B. Adams' successful 1932 Senatorial campaign on the New Deal ticket and was

delegate to the Democratic National Conventions in 1932 and succeeding presidential election years. Recommended by Costigan for an executive job, Chapman is reported to have chosen Interior because of his interest in minority groups. When he took office at 36, he was the youngest member of the "Little Cabinet."

Chapman has long worked for civil rights and child welfare. In Colorado he organized the Spanish-American League to combat exploitation of Mexican workers in the beet sugar industry, and in Washington he helped incorporate the Citizens Committee on Race Relations and has been active in the Emergency Committee to Save the Jewish People, the United Negro College Fund, and similar groups. As chairman of the Colorado Child Welfare Committee he organized local committees to care for ill and destitute children, and as president of the State Board of Control he reorganized the State Industrial School for Boys.

Chapman holds honorary LL. D. degrees from Augustana College and Colorado State College of Education and has been cited by the Secretary of War for his services as chairman of the advisory committee to the Division of Military Government.

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Harry McCann has been made manager of the Missoula Division of Montana Power Co, succeeding **Aubrey Knowles,** who has retired. McCann has been general operating superintendent for the division since 1942. He joined Missoula Public Service Co in 1929 and after its purchase by Montana Power became general superintendent of the Missoula Division in 1937. Knowles started as a trouble-shooter, first for Billings & Eastern Montana Power Co and then for Montana Power at Billings. Later he served as manager at Bigtimber, Hardin, Roundup, Anaconda, and Missoula, Mont.

Bert W. Whitehurst has joined Anderson-Nichols & Co, Boston consultants, as project engineer. For the past eight years he has been with Stone & Webster Engineering Corp, Boston. While with them he did liaison work for three years at Oak Ridge, Tenn., and was chief editor of a 35-volume electromechanical series directed by Stone & Webster for the Manhattan Project. Earlier he had headed Whitehurst Research Corp, New York City, and had been associated with Ebasco Services, Inc, in design and engineering of a topping steam plant for public utility work.

New Assignments

Five promotions have been made by Eastern Shore Public Service Co. They are **G. Raymond Matthews,** division manager at Exmore, Va., to division manager at Cambridge, Md.; **James L. Disharoon,** from district manager at Salisbury, Md., to division manager at Exmore; **Thornstein H. Storus,** from district manager at Laurel, Del, to district manager at Salisbury; **C. A. Turner,** from district manager at Crisfield, Md., to district manager at Laurel; and **Alfred W. Reddish,** from supervisor at Salisbury to district manager at Crisfield. . . . **Robert R. Wylie** has been named manager of the Sangamo Electric meter department for Rumsey Electric Co to take charge of meter sales and service in the Middle Atlantic district. He has been manager of the Norfolk and Roanoke, Va., offices. Wylie succeeds **Henry G. Duus,** who retired after 32 years of service but will continue in an advisory capacity. . . . **A. Ralph Kluckner,** superintendent of training for British Columbia Electric Railway Co at Vancouver, has been appointed vice-president of the Pacific Northwest Personnel Management Association. . . . **A. H. Ellerman,** former sales manager of Kuhlman Electric Co, Bay City, Mich., has joined the sales organization of Larkin Transformers, Pine Bluff, Ark. . . . Several personnel changes are being made in the Walla Walla district of the U. S. Army Corps of Engineers. **Lt Col William Ellison, Jr.** resident engineer at McNary Dam for nearly three years, has been assigned to Fort Meade, Md. He will be succeeded by **S. G. Neff,** district executive.

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Harry M. Parsons has resigned as Landers, Frary & Clark vice-president in charge of major appliance sales to assume the direction and management of Refrigeration Sales Co, a subsidiary of Artkraft Manufacturing Corp, Lima, Ohio. Landers, Frary & Clark has named **Robert A. Beyers** sales manager of the Universal electric range department. He will be succeeded as Southwestern regional manager by **E. M. O'Connor,** Dallas district portable appliance manager.

Henry L. Martin has been appointed electric and steam sales manager of Boston Edison Co, with **J. William Megley** as assistant manager. Martin succeeds **S. Murray Jones,** named assistant director of rate research and statistics. **Dale Washburn,** who formerly held Jones' new post, has been transferred to the vice-president's staff in charge of engineering and operations. **Paul E. Simpson** has been named assistant to Sales Manager G. C. King.

W. H. Swinney, vice-president and controller of West Penn Power Co, will retire Jan. 1. Swinney, who joined West Penn in 1927 as controller, was made a vice-president in 1939 and a director in 1943. He is a past president of Pennsylvania Electric Association and has been chairman of various Edison Electric Institute committees. **M. G. Miller,** who will continue as assistant controller, will have full responsibility for the company's accounting, tax, property records, and statistical work.

Thomas Burrin, Lebanon, Ind., utilities manager has been elected president of the Indiana Municipal Electric Association, and **F. M. Hageman,** superintendent of the Portland, Ind., municipal plant, vice-president.

OBITUARY

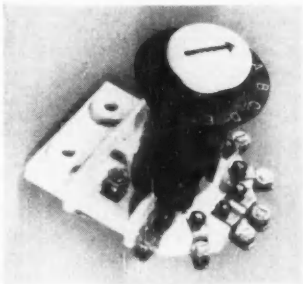
George R. Van Namee, 71, former member of the New York Public Service Commission, died Dec 6 in New York City from pneumonia. Van Namee was named second district Public Service Commissioner in 1920. In 1923 he went to Albany as secretary to Gov Alfred E. Smith but in 1924 returned to the consolidated commission. Van Namee retired from the PSC in 1943 to resume private law practice.

Remi Bollaert, 36, consulting and application engineer for Westinghouse Electric Corp, San Francisco, died Dec 8. Bollaert joined Westinghouse's student course at East Pittsburgh in 1937 and was transferred to the district engineering department at Los Angeles in 1939. In 1942 he went to the San Francisco office. Interested in industrial applications of all types of electrical machinery, Bollaert had invented a number of control schemes for crane and electronic applications. He was a member of the executive committee of the San Francisco section of the American Institute of Electrical Engineers for 1948-49 and secretary of the section for 1949-50.

Orville D. Parker, 51, assistant division manager of Central Ohio Light & Power Co at Wooster, died Dec 6. He had been with the Wooster division since 1936.

John Finn, 59, supervisor of construction for Babcock & Wilcox Co, Barberton, O., died Dec 10. He had been with the firm 32 years.

NEW EQUIPMENT



Tapchanger Switch

A PORCELAIN BASE TAPCHANGER SWITCH has a 60-amp current carrying capacity for use on 15-kv transformers. Switch is equipped with solderless terminals and locknuts. A black durite housing surrounds the knob and supports the position indicator plate which has white letters or numbers top or bottom, as desired.

The Notnac Mfg Co, 1410 Second St. S.W., Canton 2, Ohio

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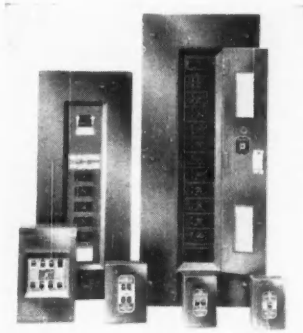

Circuit Multi-Breaker

FROM ONE to 42 lighting and appliance circuits can be handled with a new multi-breaker. The line features thermal (coilless) magnetic multi-breaker design, ranging from the single circuit MO-1 through the MO-2, MO-4, MO-8, MO-12, MO-20 and NMO panelboards.

MO-12, MO-20, and NMO panelboards are designed for installations where a large number of circuits are required. Flexible "plug-in" multi-breaker units can be "plugged in" on round bus bars, in two-circuit steps, as additional circuits are needed.

Square D Co, Detroit, Mich.

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Electrical Tape

UP TO 200% STRETCH with consequent conformation to irregular surfaces is claimed for the new Dutch Brand Plastix electrical tape. It is also said to be high in dielectric resistance, "superthin" and resistant to water, oil and corrosive chemicals.

Van Cleef Bros, Inc, S. Woodlawn Ave, 77 to 78th Sts, Chicago 19, Ill.

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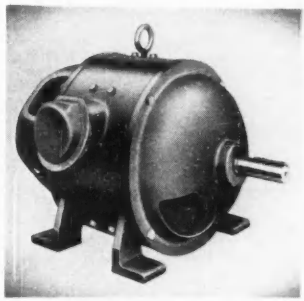

D-C Motors

MOTORS DESIGNATED type SK d-c Life-Line, in one to 30-hp ratings, feature all-steel construction similar to that of a-c Life-Line motors. They are available for constant, adjustable, or varying speed applications and for either continuous or intermittent service.

Steel brackets are furnished to provide strength and correct bearing alignment. Shunt, compound, or series windings can be supplied. Motors are rated at 115, 230, 550, or 660 v.

Westinghouse Electric Corp, P. O. Box 2099 Pittsburgh 30, Pa.

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Power Circuit Transformer

POWER CIRCUIT TRANSFORMERS for lighting circuits, appliances, electric tools, relays and controls have been extended to include 7½, 10, and 15 kva

sizes. They are the dry type, double-wound with mounting brackets and loops for hanging. Wiring compartments are provided for both primary and secondary connections with ½-in. and ¾-in. knockouts. Primary voltage is 460/230, secondary is 230/115 v, 50/60 cycles.

Jefferson Electric Co, Bellwood, Ill.

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Street Lighting Standards

A NEW LINE OF weldforged street lighting standards is available in either single or twin unit types. Model 200K (shown) is typical of the new line of standards conforming to IES Street Lighting Codes. Illustrated catalogs and specification sheets are available.

Kerrigan Iron Works, Inc, Engineering Department, Nashville, Tenn.

ELECTRICAL BUSINESS OUTLOOK

High level industrial production can be expected in the first half of 1950. Power sales to industrial consumers will be nearly as high as in the first half of 1949, better than in the second six months.

Industrial activity has now recovered at least 10% from the low point reached in July. The interruption caused by October strikes is over. In fact, the need to make up steel strike losses is boosting output in the metal-working industries.

The Federal Reserve index of industrial production (1935-39 = 100) will probably reach 180 in December. That's well below the 192 recorded in December, 1948, at the peak of the postwar boom. But it shows a marked upswing from 162 during the summer slump and 166 in the strike month of October.

The result has been to stem the decline in sales to large electric power consumers that persisted in the early months of 1949. Comparisons with 1948 don't show this because the last months of 1948 were whoppers. But on a month-to-month basis, industrial power sales are improving.

The main reason for expecting high industrial activity to continue well into 1950 is the strong demand for steel. Steel is the key factor in industrial production. And the steel industry is among the biggest users of electric power.

Steel mills will be kept busy at least until April making up the tonnage which was lost during the strike. Moreover, a very high level of automobile production now seems likely for the first half year. And that will call for high capacity steel production.

The machinery industry, another big steel user, is due to keep bumping along at its present level, about 20% below last year. That's because business spending on new machinery has dropped. The Department of Commerce reports that new plant and equipment outlays for the first quarters, 1950, are scheduled to be down 15% from 1949. But this won't immediately affect the demand for steel or power.

There are three offsetting factors to the expected drop in plant and equipment expenditures: (1) the backlog created by the steel strike; (2) continued heavy consumer spending on automobiles, electric appliances and other consumer durables—consumer incomes will be inflated in the first months of 1950 by $2.8 billion special payments to veterans—(3) heavy government outlays for public construction.

These factors add up to enough demand to keep steel operations close to 90% of capacity for several months. And so total industrial production won't slide the way it did in 1949, carrying industrial power sales down with it.

Here is the first half-year outlook for other major power consuming industries:

Non-ferrous metals: Like steel, these metals are in heavy demand for construction and consumer durables. Production should average near current levels.

Chemicals: A slight rise in production may be expected. Output of some chemicals was cut by the strikes. And the newer fields such as rayon and plastics are still growing.

Petroleum and coal products: The rate of petroleum refinery operations really hinges on the weather. Fuel oil stocks have been high. But a cold wave would change that. Or good spring driving would up demand for gasoline. Coke oven operations will be high to keep pace with steel output.

Paper and pulp: Mills are now running at capacity. But inventories are growing. Production may slide 10% to 15% by the end of the first quarter to the level of actual consumption. Then output should hold steady for several months.

The business outlook for the second half of 1950 is much less certain. By then backlog demand from the strikes will be made up. And the stimulus of the veterans' dividend on consumer spending will be largely gone. The determining factor may be federal government spending.

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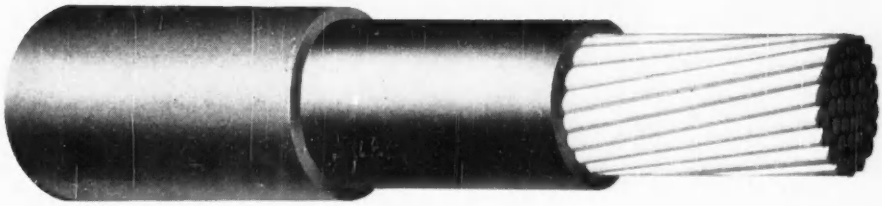

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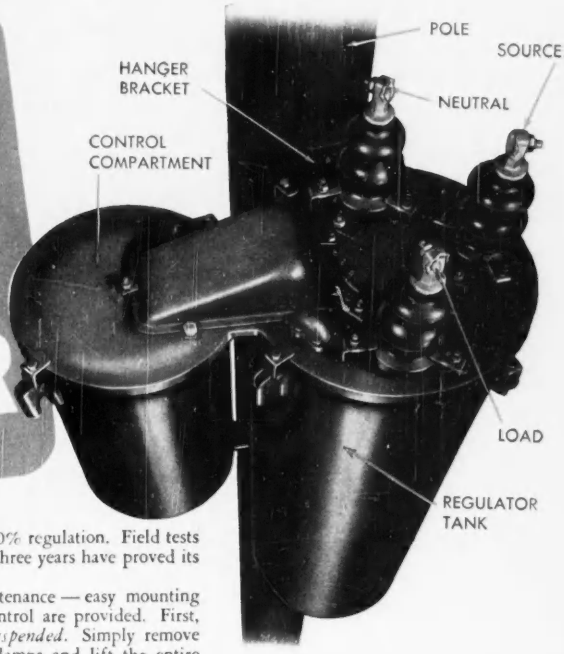

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